(I) REAL PARTY IN INTEREST

The real party in interest is **SAKATA INX CORP.**, by an assignment recorded in the U.S. Patent and Trademark Office on October 18, 2005, at Reel 017101, Frame 0269.

(II) RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellants, Appellants' representative or assignee that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(III) STATUS OF CLAIMS

Claims 1, 3 and 6-13 are pending in the application, remain rejected, and are herein appealed.

(IV) STATUS OF AMENDMENTS

Claims 1, 3 and 6-13 were rejected in the non-final Office Action dated February 5, 2010 and finally rejected in the Office Action dated July 22, 2010. The present Appeal followed.

(V) SUMMARY OF THE CLAIMED SUBJECT MATTER

Rejected claims 1, 3 and 6-13 are grouped and represented by the independently claimed subject matter of claim 1, whose limitations are described in at least the following locations:

1. (Previously Presented) A gas barrier coating composition, comprising:	Specification throughout
an inorganic layered compound dispersion (c),	Page 5, line 10
wherein an inorganic layered compound (b) is dispersed using a peroxide (a) in a dispersion medium, and	Page 5, lines 11-12 Page 7, lines 20 - page 8, line 6
a gas barrier resin (d);	Page 5, line 33 - page 6, line 2
and wherein a mixture containing the peroxide (a) and inorganic layered compound (b) in a mixing ratio by mass of (a)/(b) = 2/1 to 1/1000 is dispersion treated in a high speed stirring apparatus and/or a high pressure dispersing apparatus	Page 5, lines 16-19
wherein the inorganic layered compound (b) is montmorillonite.	Page 8, lines 8-27

(VI) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1, 3 and 6-11 remain rejected under 35 U.S.C. §103(a) as being unpatentable over Sakaya et al. (USP 5,942,298) in view of Gregorich et al. (Can. J Soil Sci 68: 395-403) with Encyclopedia Britannica (http://www.britannica.com/EBchecked/topic/288836/inorganic-soil) and Easton et al. (Trans. Faraday. Doc. 1952, 48, 796-801).

Claim 12 is rejected under 35 U.S.C. §103(a) as being unpatentable over Sakaya et al. (USP 5,942,298) in view of Gregorich et al. (Can. J Soil Sci 68: 395-403) in further view of Uchida et al. (USP 6,569,533) with Encyclopedia Britannica (http://www.britannica.com/EBchecked/topic/288836/inorganic-soil) and Easton et al. (Trans. Faraday. Doc. 1952, 48, 796-801) used for evidentiary value.

(VII) ARGUMENT

REJECTION OF THE CLAIMS REQUIRES THE COMBINATION OF GREGORICH ET AL. WITH SAKAYA ET AL.

Claim 1 is representative of the invention.

1. (Currently Amended) A gas barrier coating composition, comprising:

an inorganic layered compound dispersion (c), wherein an inorganic layered compound (b) is dispersed using a peroxide (a) in a dispersion medium, and

a gas barrier resin (d); and

wherein a mixture containing the peroxide (a) and inorganic layered compound (b) in a mixing ratio by mass of (a)/(b) = 2/1 to 1/1000 is dispersion treated in a high speed stirring apparatus and/or a high pressure dispersing apparatus wherein the inorganic layered compound (b) is montmorillonite.

A critical essence of the invention is in the limitation wherein an **inorganic** layered compound (b) is dispersed using a peroxide (a) in a dispersion medium.

The claims are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. 5,942,298 to Sakaya et al. in view of Gregorich et al.

The Examiner concludes that one would have been motivated to combine the peroxide dispersion process of Gregorich et al. with the invention of Sakaya et al. because the films of Sakaya et al. are formed from a dispersion process, and Gregorich et al. "teaches that peroxide enhances dispersion of inorganic materials."

THE EXAMINER SHOWS NO REASONABLE SUGGESTION THAT WOULD HAVE LED ONE TO COMBINE THE PRIOR ART TEACHINGS TO REACH THE PRESENT INVENTION.

Appellants submit that there is no reasonable suggestion for the asserted combination of Gregorich et al. with Sakaya et al. Specifically, there is no teaching or reasonable suggestion to use hydrogen peroxide in the inorganic dispersion of Sakaya et al.

KSR v. Teleflex would not excuse the Examiner from failing to show why the prior art would have been combined. KSR expressly instructs that it remains legally insufficient to conclude that a claim is obvious just because each feature of a claim can be independently shown in the cited art. A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art[1].

KSR requires that an Examiner provide "some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness"[2]. An Examiner still must "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does"[3]. Furthermore, the Examiner must make explicit this rationale of "the apparent reason to combine the known elements in the fashion claimed," including a detailed explanation of "the effects of demands known to the design community or present in the marketplace" and "the background knowledge possessed by a

[1] KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 418 (U.S. 2007)
[2] *Id.*
[3] *Id.*

person having ordinary skill in the art"[4]. Anything less than such an explicit analysis may not be sufficient to support a *prima facie* case of obviousness.

TO REACH THE PRESENT INVENTION, ONE SKILLED IN THE ART WOULD HAVE HAD TO HAVE BEEN MOTIVATED TO COMBINE A MATERIAL WHOSE EFFICACY IS BASED ON DESTROYING CERTAIN ORGANIC COMPOUNDS WITH A MATERIAL THAT CONTAINS NO SUCH ORGANIC MATERIAL TO BE DESTROYED.

The only way to reach the present invention is to combine the hydrogen peroxide of Gregorich et al. with the process of forming the material of Sakaya et al. In order for one skilled in the art to have made such a combination, the Examiner needs to show some suggestion for one skilled in the art to have made such combination. Appellants assert that the Examiner shows no reasonable suggestion that would have led one to modify the prior art teachings to reach for the present invention.

Appellants characterize the Examiner's arguments as follows:

(1) The Examiner asserts that Sakaya et al. teach the containers made from a dispersed layered inorganic compound composition, but is silent regarding the use of hydrogen peroxide as claimed in the dispersion process.

(2) The Examiner asserts that Gregorich et al. teach that its microaggregates consist of clay minerals and humified organic material (page 396). Gregorich et al. further teach that hydrogen peroxide is effective in dispersing silt sized aggregates, which would include both the

[4] *Id.*

inorganic clay minerals and the organic material. The Examiner concludes that the hydrogen peroxide has an effect on inorganic material dispersions.

(3) Appellants have asserted that Gregorich et al. discusses that hydrogen peroxide has an effect only because there is organic matter capable of being destroyed by hydrogen peroxide, which organic matter prevents formation of its dispersions. Appellants have asserted that the only reason for using hydrogen peroxide is because of the organic matter that is capable of being destroyed by hydrogen peroxide.

(4) The Examiner agrees that Gregorich et al. teach that ultrasonic vibration was more effective than hydrogen peroxide in destroying organic matter for forming dispersions. However, the Examiner reasons that "if there were no organic matter, then hydrogen peroxide would be effective in forming dispersions."

Appellants disagree with the Examiner's logic that Gregorich provides a suggestion to use its hydrogen peroxide, which is capable of destroying some organic matter, in a process that does not require destruction of the very organic matter shown to be affected by hydrogen peroxide.

Appellants submit that such logic would be equivalent to, for example, noting that a single fishing line is not effective compared with fishing with a trawling net, and concluding that if there were no fish to catch, the fishing line would be effective. Of course, if there were no fish, it would be meaningless to assert any level of effectiveness associated with fishing line. Similarly, in the present situation the Examiner asserts that an agent taught as a relatively ineffective organic-matter destroying agent would be effective in the absence of organic matter.

Appellants submit that Gregorich et al. is properly characterized as suggesting the use of peroxide to disperse an inorganic layered compound, such as that of Sakaya et al., only if the inorganic layered compound of Sakaya et al. contained organic material capable of being destroyed by the hydrogen peroxide. Appellants submit that because the inorganic layered compound of Sakaya et al. does not contain organic material capable of being destroyed by the hydrogen peroxide, there has been shown no reason for using the hydrogen peroxide of Gregorich et al. with the dispersion of Sakaya et al. Therefore, one would not have made the combination as asserted, and the claimed invention is therefore not fully taught or suggested by the cited references.

SAKAYA ET AL. DOES NOT CONTAIN THE VERY ORGANIC MATERIAL SHOWN TO BE AFFECTED BY THE HYDROGEN PEROXIDE OF GREGORICH ET AL.

Gregorich et al. teaches that hydrogen peroxide is effective in disrupting organic-containing silt-sized aggregates, and therefore enhancing dispersion in comparison to lower levels of ultrasonic energy (page 400, first full paragraph).

However, Appellants note that Gregorich et al. teaches that the fact that "the peroxide treatment is ineffective in dispersing sand-sized microaggregates may due to failure of the peroxide to destroy *organic matter within sand-sized aggregates*."

The only motivation for one to have used peroxide when preparing the inorganic layered compound of Sakaya et al. would have been if the inorganic layered compound of Sakaya et al. contained silt-sized aggregates containing organic material that needs to be destroyed. Such is not the case in Sakaya et al.

Appellants note Table 1 of Gregorich et al., and conclude that the hydrogen peroxide used in Gregorich can destroy the organic matter within sand and silt size fractions, but the hydrogen peroxide cannot destroy the organic matter within clay-size fractions.

Gregorich et al. discloses that the peroxide cannot destroy the organic matter within clay size fraction. Because the inorganic layered compound used in Sakaya et al. and the clay size fraction obtained by the Gregorich are the same-sized materials, Sakaya et al. does not contain organic matter that could be destroyed by the peroxide in Gregorich.

The only motivation for one to have used peroxide when preparing the inorganic layered compound of Sakaya et al. would have been if the inorganic layered compound of Sakaya et al. contained organic material destroyable by peroxide that needs to be destroyed. Such is not the case.

Therefore, Appellants submit that there remains no suggestion to use the hydrogen peroxide of Gregorich et al. with the inorganic dispersions of Sakaya et al.

(VIII) CONCLUSION

Appellants have shown that there is no reasonable suggestion to one skilled in the art to have combined the cited references as asserted. Therefore, the rejection under 35 U.S.C. §103 of the present claims over the cited reference has been properly rebutted, and should be withdrawn.

If this paper is not timely, Appellants petitions for an appropriate extension of time. Any fees due in connection with this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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(IX) CLAIMS APPENDIX

1. (Previously Presented) A gas barrier coating composition, comprising:

an inorganic layered compound dispersion (c), wherein an inorganic layered compound (b) is dispersed using a peroxide (a) in a dispersion medium, and

a gas barrier resin (d); and

wherein a mixture containing the peroxide (a) and inorganic layered compound (b) in a mixing ratio by mass of (a)/(b) = 2/1 to 1/1000 is dispersion treated in a high speed stirring apparatus and/or a high pressure dispersing apparatus wherein the inorganic layered compound (b) is montmorillonite.

2. (Canceled)

3. (Previously Presented) The gas barrier coating composition according to claim 1, wherein hydrogen peroxide is used as the peroxide (a).

4-5. (Canceled)

6. (Previously Presented) The gas barrier coating composition according to claim 1, wherein the total content of the inorganic layered dispersion (c) and gas barrier resin (d) in the gas barrier coating composition is 1 to 30% by mass and the mass ratio (c)/(d) is 30/70 to 70/30.

7. (Previously Presented) The gas barrier coating composition according to claim 1, which contains, as the gas barrier resin (d), at least one resin selected from the group consisting of polyvinyl alcohol-based resins and ethylene-vinyl alcohol-based resins.

8. (Previously Presented) A gas barrier composite plastic film or sheet,

which is obtainable by applying the gas barrier coating composition according to claim 1 to at least one of the surfaces of a film or sheet of a plastic selected from the group consisting of polyolefins, polyesters, polyamides and polystyrene in a coating weight to give a dry film thickness of 0.1 to 100 μm.

9. (Original) A gas barrier packaging container, which is obtainable by molding the gas barrier composite plastic film according to Claim 8.

10. (Original) A gas barrier packaging container, which is obtainable by molding the gas barrier composite plastic sheet according to Claim 8.

11. (Previously Presented) A gas barrier packaging container, which is obtainable by applying the gas barrier coating composition according to claim 1 to a plastic container molded in the form of a tube, tray, cup, box or bottle in a coating weight to give a dry film thickness of 0.1 to 100 μm.

(X) EVIDENCE APPENDIX

n/a

(XI) RELATED PROCEEDINGS APPENDIX

n/a

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of: **Yutaka MATSUOKA** Art Unit: **1782**

Application Number: **10/524,680** Examiner: **Erik Kashnikow**

Filed: **October 18, 2005** Confirmation Number: **8336**

For: **INORGANIC LAYERED COMPOUND DISPERSION, PROCESS FOR PRODUCING THE SAME, AND USE THEREOF**

Attorney Docket Number: **043210**
Customer Number: **38834**

SUBMISSION OF APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

December 27, 2010

Sir:

Applicant submits herewith an Appeal Brief in the above-identified U.S. patent application.

Attached please find a check for $540.00 for the Appeal Brief. If any additional fees are due in connection with this submission, please charge Deposit Account No. 50-2866.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPEAL BRIEF FOR THE APPELLANT

Ex parte Yutaka MATSUOKA et al. (Applicant)

INORGANIC LAYERED COMPOUND DISPERSION, PROCESS FOR PRODUCING THE SAME, AND USE THEREOF

Application Number: 10/524,680

Filed: October 18, 2005

Art Unit: 1782

Examiner: Erik Kashnikow

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December 27, 2010